



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/582,595

06/09/2006

Thomas Scherer

WUE-50

1980

7590  
Thomas J Burger  
Wood Herron & Evans  
2700 Carew Tower  
441 Vine Street  
Cincinnati, OH 45202-2917

05/12/2009

EXAMINER

COX, ALEXIS K

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

05/12/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,595	<b>Applicant(s)</b> SCHERER ET AL.	
	<b>Examiner</b> ALEXIS K. COX	<b>Art Unit</b> 3744	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/14/2009, 2/12/2008, 6/09/2006</u> .                         | 6) <input type="checkbox"/> Other: ____.                          |



## DETAILED ACTION

### *Election/Restrictions*

1. The reply filed on 2/17/2009 is not fully responsive to the prior Office Action because of the following omission(s) or matter(s): Regarding new claims 13 and 14, no explicit statement was made indicating them to read on species A, species B, or both. See 37 CFR 1.111. Since the above-mentioned reply appears to be *bona fide*, applicant is given **ONE (1) MONTH or THIRTY (30) DAYS** from the mailing date of this notice, whichever is longer, within which to supply the omission or correction in order to avoid abandonment. EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136(a).

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-6, 11, 13 and 14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-6, the limitation "a cabin zone" on line 1 should be changed to "a cabin", the limitation "sensor" on line 6 should be changed to "a sensor", and generally throughout all claims any limitation should be cited as "a" or "an" the first time used and "the" or "said" in any subsequent use within the claim. Failure to do so constitutes a lack of antecedent basis for the limitation in question.

Art Unit: 3744

Regarding claim 11, the term "passenger aircraft" on line 1 should be changed to "a passenger aircraft", the term "the cabin" should be changed to "a cabin", the term "several cabin zones" should be changed to "a plurality of cabin zones", and so forth. As above, all first citations should be preceded with "a" or "an", and subsequent uses with "the" or "said".

Regarding claims 13 and 14, any first use of a limitation in a claim should be preceded by "a" or "an", and any subsequent use should be preceded by "the" or "said". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Fischer et al (US Patent No. 5,479,983).
5. Regarding claim 11, Fischer et al discloses a passenger aircraft, the cabin (1B, see column 3 line 16) of which is sub-divided into several cabin zones (2, 3, 4, see column 3 lines 19-20) supplied with specially temperature-regulated feed air (see column 3 lines 35-38), including an electronic control unit (41A, see column 5 line 40) arranged to control, for each cabin zone, the temperature of the injected feed air dependent upon a deviation of an injection temperature actual value, measured by sensor (35-40, see column 3 lines 50-51), in relation to an injection temperature target

Art Unit: 3744

value for a part of the cabin zones by comparing an ambient temperature actual value for the ambient temperature in the cabin zone in question, measured by sensor, with an ambient temperature target value, characterized in that the control unit is arranged to be able to establish, at least for the first cabin zone, the injection temperature target value for this first cabin zone, upon the basis of the injection temperature target value and or of the injection temperature actual value of at least a second cabin zone, different from the first, whereby every second cabin zone is a zone with measurement by sensor of the ambient temperature actual value of the second cabin zone in question.

6. Regarding claim 13, Fischer et al discloses a device for controlling the temperature of feed air to be injected into a cabin zone of a passenger aircraft, comprising a temperature sensor (35-40, see column 3 lines 50-51) measuring the injection temperature of the feed air to be injected into the cabin, and an electronic control unit (41, see column 5 lines 12-14) connected to the temperature sensor (see column 5 lines 33-39), wherein the control unit controls the temperature of the feed air to be injected into the cabin zone dependent upon a deviation of measured injection temperature actual value of the feed air to be injected into the cabin zone from an injection temperature target value, and wherein the control unit for the cabin zone is capable of establishing the injection temperature target value without using an ambient temperature actual value for this cabin zone.

Further regarding claims 11 and 13, the applicant is reminded that a recitation with respect to the manner in which an apparatus is intended to be employed does not

Art Unit: 3744

differentiate the claimed apparatus from a prior art apparatus satisfying the structural limitations of the claims.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 3744

10. Claims 1-6 and 14 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Fischer et al (US Patent No. 5,479,983) in view of Nakanishi et al (US Patent No. 6,009,939), and Taylor et al (US Patent No. 1,921,172).

11. Regarding claims 1-3 and 14, Fischer et al discloses a passenger aircraft, the cabin (1B, see column 3 line 16) of which is sub-divided into several cabin zones (2, 3, 4, see column 3 lines 19-20) supplied with specially temperature-regulated feed air (see column 3 lines 35-38), including an electronic control unit (41A, see column 5 line 40) arranged to control, for each cabin zone, the temperature of the injected feed air dependent upon a deviation of an injection temperature actual value, measured by sensor (35-40, see column 3 lines 50-51), in relation to an injection temperature target value for a part of the cabin zones by comparing an ambient temperature actual value for the ambient temperature in the cabin zone in question, measured by sensor, with an ambient temperature target value, characterized in that the control unit is arranged to be able to establish, at least for the first cabin zone, the injection temperature target value for this first cabin zone, upon the basis of the injection temperature target value and or of the injection temperature actual value of at least a second cabin zone, different from the first, whereby every second cabin zone is a zone with measurement by sensor of the ambient temperature actual value of the second cabin zone in question.

It is noted that Fischer et al does not explicitly establish, at least for the first cabin zone, the injection temperature target value for this first cabin zone, upon the basis of the injection temperature target value and or of the injection temperature actual value of at least a second cabin zone, different from the first, whereby every second cabin zone



Art Unit: 3744

is a zone with measurement by sensor of the ambient temperature actual value of the second cabin zone in question, or the use of average temperature based on multiple sensors. Nakanishi et al discloses a zone temperature control system which uses the temperature data from various sensors to determine if a given sensor is malfunctioning, and does not use the data from a malfunctioning sensor (see column 6 lines 19-34).

Taylor et al explicitly disclose the use of average data from multiple sensors for temperature control purposes (see page 1 lines 52-55). It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to use the sensor failure accommodation of ceasing to use a broken sensor as is done by Nakanishi in combination with the average temperature control of Taylor et al used in place of the additional sensor of Nakanishi in the system of Fischer et al in order to have means to control the air temperature of the zones of Fischer et al in the event of a sensor failure, without the additional weight, space, and wiring considerations of implementing physical backup sensors.

12. Regarding claims 4-6, it is noted that Fisher, Nakanishi and Taylor et al do not explicitly disclose the use of a correction value when establishing the injection temperature range, or that it be possible to enter the correction value manually.

However, the adjustable zone sizes of Fisher et al require the ability to correct for zone size when calculating the ideal injection temperature, as does compensating for the lack of data when a sensor is broken. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use one or more correction values

Art Unit: 3744

which may be entered manually in the control of the system of Fisher, Nakanishi and Taylor et al.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Byrne (US Patent No. 3,643,862) discloses feed air temperature control in an HVAC system. Kumada et al (US Patent Application Publication No. 2004/0079099) discloses the use of non-contact temperature sensors in a vehicle air conditioning system. Van Den Ende et al (US Patent Application Publication No. 2005/0217841) discloses the use of interpolation to determine temperature between sensors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXIS K. COX whose telephone number is (571)270-5530. The examiner can normally be reached on Monday through Thursday 8:00a.m. to 5:30p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3744

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AKC/

/Frantz F. Jules/

Supervisory Patent Examiner, Art Unit 3744